

PATENT**BEST AVAILABLE COPY****REMARKS**

Claims 1-61 are currently pending in this application. Reconsideration is respectfully requested in light of the above amendments and following remarks.

The Examiner objected to claims 9, 10, 19, 20, 29, 30, 39, 40, 45, 49, 50, 59 and 60 as being dependent upon a rejected base claim. The Examiner indicated however, that claims 9, 10, 19, 20, 29, 30, 39, 40, 45, 49, 50, 59 and 60 would be allowable if rewritten in independent format including all of the limitations of the base claim and any intervening claims. Applicants have rewritten claims 9, 10, 29, 30, 49 and 50 in independent format including all of the limitations of the base claims and any intervening claims. Applicants therefore respectfully submit that claims 9, 10, 29, 30, 49 and 50 are allowable.

The Examiner rejected claims 1-8, 11-18, 21-28, 31-38, 41-44, 46-48, 51-58 and 61 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 5,282,836 to Kreyenhagen et al. Applicants respectfully traverse this rejection.

Applicants' claimed invention as recited in independent claims 1, 21, 41 and 61 is directed toward an apparatus and corresponding method for delivering defibrillating electrical energy to at least one atrium of a heart at a time which avoids inducing ventricular fibrillation of the heart. For example, claim 1 recites a device having a timer that times a time period through an evoked response and a T-wave caused by the pacing pulse, the time period completing a predetermined time after the T-wave ends. (Underlining added for emphasis only). Applicants respectfully submit that Kreyenhagen et al. do not disclose or suggest the recited claim elements.

Rather, the system of Kreyenhagen et al. includes a timer that times the intervals between ventricular activations of the heart for a predetermined number of cardiac cycles to determine a base interval which is equal to the average interval between activations over the predetermined number of cycles. The system of Kreyenhagen et al. then paces the ventricles at a cardiac rate corresponding to the base interval for a predetermined number of cardiac cycles. Kreyenhagen et al. then apply cardioverting electrical energy to the atria of the heart coincidentally with the application of a pacing pulse to the ventricles in accordance with the base interval. (Kreyenhagen et al., col. 8,

PATENT

lines 1-58). Thus, unlike applicants' claimed invention which applies cardioverting energy to at least one atrium of the heart a predetermined period after the end of a T-wave caused by a pacing pulse, Kreyenhagen et al. apply the cardioverting energy coincidentally with a pacing pulse in accordance with the interval between pacing pulses.

Accordingly, applicants respectfully submit that independent claims 1, 21, 41 and 61 are novel and unobvious over Kreyenhagen et al. and are patentable. Applicants further submit that claims 2-8 and 11-20, claims 22-28 and 31-40 and claims 42-48 and 51-60 that depend from claims 1, 21 and 41 respectfully are allowable as are claims 1, 21 and 41 and for additional limitations recited therein.

The Examiner rejected claims 1-4, 7, 11-15, 21-24, 27, 31-35, 41-44, 47, 51-55 and 61 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 6,081,745 to Mehra. Applicants respectfully traverse this rejection.

As argued above, applicants' claimed invention is directed toward an apparatus and corresponding method for delivering defibrillating electrical energy to at least one atrium of a heart a predetermined period after the end of a T-wave which results from application of a ventricular pacing pulse. Applicants respectfully submit that Mehra does not disclose or suggest applicants' claimed invention.

Rather, as pointed out by the Examiner, the system of Mehra defines a synchronization interval following the delivery of a pacing pulse which is longer than the previous ventricular pacing escape interval, and which may also be longer than the previous intrinsic R-R intervals. The device of Mehra then delivers an atrial cardioversion pulse thereafter on occurrence of the next sensed R-wave, provided it occurs after expiration of the synchronization interval. (Mehra, col. 2, line 65 –col. 3, line 5). Thus, Mehra utilizes a synchronization method designed to deliver a cardioversion shock 416, after expiration of the synchronization interval 411, in synchrony with a sensed intrinsic R-wave 412 as illustrated in FIG. 4. (Mehra, col. 9, lines 19-22).

Thus the timer of Mehra is based on the interval between paced ventricular events or intrinsic ventricular events. Mehra does not however disclose or suggest delivering cardioverting energy to at least one atrium of the heart a predetermined period after the end of a T-wave caused by a pacing pulse as recited in applicants'

PATENT

claimed invention. Accordingly, applicants respectfully submit that independent claims 1, 21, 41 and 61 are novel and unobvious over Mehra and are patentable. Applicants further submit that claims 2-8 and 11-20, claims 22-28 and 31-40 and claims 42-48 and 51-60 that depend from claims 1, 21 and 41 respectfully are allowable as are claims 1, 21 and 41 and for additional limitations recited therein.

The Examiner rejected claims 5, 6, 16, 17, 25, 26, 36, 37, 46, 56 and 57 under U.S.C. §103(a) as unpatentable over U.S. Patent 5,282,836 to Kreyenhagen et al. Applicants respectfully traverse this rejection. As argued above, independent claims 1, 21 and 41 are novel and unobvious over Kreyenhagen et al. Therefore, claims 5, 6 and 17, claims 25, 26, 35 and 37 and claims 46, 56 and 57 that depend from independent claims 1, 21 and 41 respectively are allowable as are claims 1, 21 and 41 and for additional limitations recited therein.

The Examiner rejected claims 8, 18, 28, 38, 48 and 58 under U.S.C. §103(a) as unpatentable over Kreyenhagen et al. or Mehra in view of U.S. Patent 5,411,524 to Rahul. Applicants respectfully traverse this rejection.

As argued above, neither Kreyenhagen et al. or Mehra, alone or in combination disclose or suggest a method or apparatus for delivering defibrillating electrical energy to at least one atrium of a heart a predetermined period after the end of a T-wave that results from application of a ventricular pacing pulse as recited in independent claims 1, 21 and 41. Accordingly, independent claims 1, 21 and 41 are novel and unobvious over Kreyenhagen et al and Mehra and are allowable. Therefore, claims 8 and 18, claims 28 and 38 and claims 48 and 58 that depend from independent claims 1, 21 and 41 respectively are allowable as are claims 1, 21 and 41 and for additional limitations recited therein.

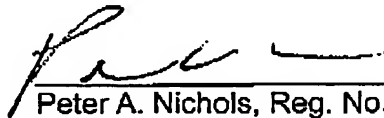
PATENT

In light of the above amendments and remarks, it is respectfully submitted that the application is in condition for allowance, and an early notice of allowance is requested.

Respectfully submitted,

10-22-04

Date



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